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ABSTRACT

This manual presents the trainee's workbook and the trainer's guidelines for the fourth of six modules in a teacher inservice series developed to promote the unified effort of both regular and special education personnel in understanding and applying nationally recognized practices to implement fully inclusive education for students with diverse learning abilities and disabilities. Module 4 is on skills for delivering instruction on the instructional team. The trainee workbook is in the form of: (1) 37 transparency masters which provide information on using performance assessment, applying reinforcement, identifying potential reinforcers, instructional delivery techniques, time delay, prompting, graduated guidance, and instructional decision making; and (2) 3 activities applying the principles covered by the transparencies. The manual for trainers offers specific objectives and suggested comments keyed to each of the transparencies, addressing the topics of delivering instruction, performance and product, instructional intervention, instructional modifications, performance data, and data-based instructional decisions. A pre/posttest is also included. (DB)

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An Instructional Series

Innovative Practices that Support Students with Diverse Learning Abilities in Neighborhood Schools

Building Inclusive Schools

MODULE 4 Instructional Teaming

Part B: Delivering Instruction

EC 304 563

University of Kansas
Schiefelbusch Institute
for Life Span Studies

Kansas University
Affiliated Program

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Module 4

Instructional Teaming Part B Skills for Delivering Instruction

Trainee Workbook

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Developed by the

Kansas Project for the Utilization of Full Inclusion Innovations for Students with Severe Disabilities

The Purpose of this Series

This series will: 1) promote the widespread use of promising, nationally recognized practices advocating fully inclusive education for students with diverse learning abilities in their neighborhood schools, and 2) provide an instructional package that promotes these promising practices through the unified effort of both regular and special education personnel.

University of Kansas
Schiefelbusch Institute for Life Span Studies
Kansas University Affiliated Program
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Parsons, Kansas 67357

Project Co-Directors
Charles Robert Campbell, Ed.D.
Patti C. Campbell, Ed.D.

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Instructional Teaming Part B:
Delivering Instruction
Objectives

The trainee will:

design instruction based on performance assessment data that includes an identified performance/ product, an instructional sequence, and modifications for a student with diverse learning abilities.

collect and graph instructional data to make instructional decisions for a student with diverse learning abilities.

Using Performance Assessment

Part A: Reforming Assessment

Rethink

Reorganize

Rewrite

Redefine

Redetermine

Restructure

Using Performance Assessment

Part B: Reforming Instruction

Define performance/ product

Delineate instructional sequence

Indicate instructional modification

Collect/graph performance data

Make data-based instructional decisions

Delivering Intruction

I. *Instructional Objective*

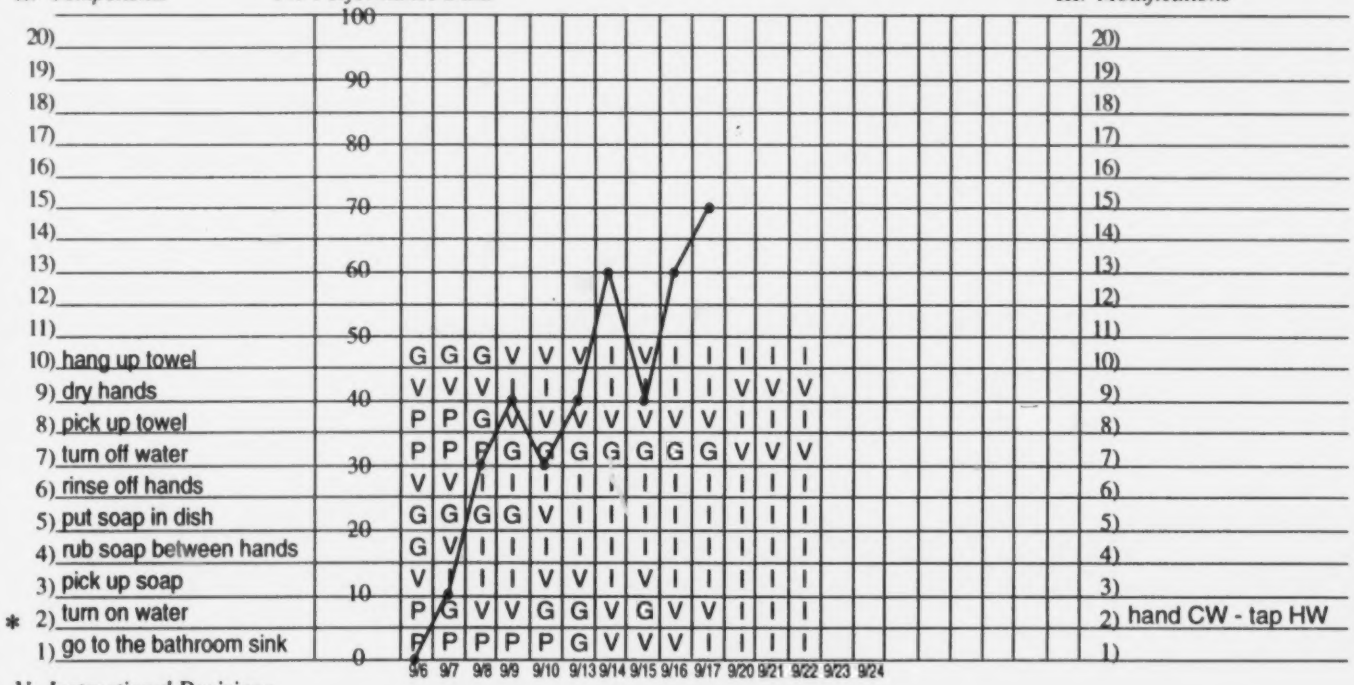
Student: David Teacher: Jones Session Length: 10 min. Performance/Product/Goals: handwashing

Performance objective:

Behavior: Indep. wash hands Condition: Given the cue, "Time to get ready for lunch" Criteria: 80% 3 consecutive days

Setting(s): bathroom sink Reinforcer(s): "good job" Schedule: continuous R+ for each component

II. *Components* IV. *Performance Data* III. *Modifications*



V. *Instructional Decisions*

Date	Trend/Mean	Decision
9/17/94	accelerating/38%	No change
9/22/94	Mastery/80%	Extend performance (generalization)

Scoring Key
I = Independent
V = Verbal/Visual
G = Gesture
P = Physical Assist

Source: Adapted from Assessment of individuals with Severe Handicaps (p. 272) by D. Browder, 1987, Baltimore, MD: Paul H. Brookes, Copyright 1987 by Paul H. Brooks Publishing Company

Delivering Intruction

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		9/6	9/7	9/8	9/9	9/10	9/13	9/14	9/15	9/16	9/17	9/20	9/21	9/22	9/23	9/24
10)	hang up towel	G	G	G	V	V	V	I	V	I	I	I	I	I		
9)	dry hands	V	V	V	I	I	I	I	I	I	I	V	V	V		
8)	pick up towel	P	P	G	V	V	V	V	V	V	V	I	I	I		
7)	turn off water	P	P	P	G	G	G	G	G	G	G	V	V	V		
6)	rinse off hands	V	V	I	I	I	I	I	I	I	I	I	I	I		
5)	put soap in dish	G	G	G	G	V	I	I	I	I	I	I	I	I		
4)	rub soap between hands	G	V	I	I	I	I	I	I	I	I	I	I	I		
3)	pick up soap	V	I	I	I	V	V	I	V	I	I	I	I	I		
* 2)	turn on water	P	G	V	V	G	G	V	G	V	V	I	I	I		
1)	go to the bathroom sink	P	P	P	P	P	G	V	V	V	I	I	I	I		

100 90 80 70 60 50 40 30 20 10 0

20) 19) 18) 17) 16) 15) 14) 13) 12) 11) 10) 9) 8) 7) 6) 5) 4) 3) 2) hand CW - tap HW 1)

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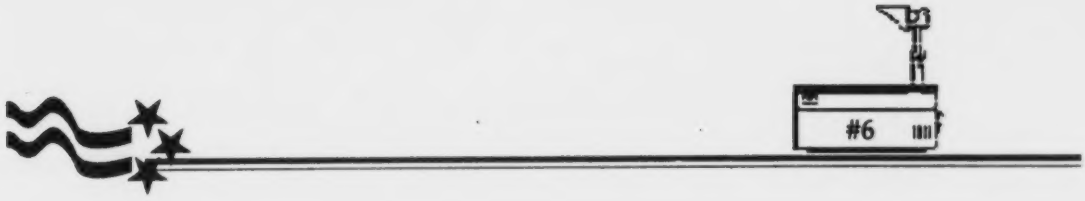


Positive reinforcement . . .

increases the chances of a behavior or performance occuring again or being maintained.

Examples:

Receiving a paycheck

Earning stars

Being told "Good job"

Being recognized

Schedules of Reinforcement

Continuous reinforcement

Intermittent reinforcement

Continuous reinforcement . . .

means that the target behavior is reinforced each time it occurs.

Example:
David is told "good job" each time he correctly performs each step of the handwashing performance.

Intermittent reinforcement . . .

means that the target behavior is reinforced on a predetermined schedule.

Example:

David is told "good job" every other time he correctly performs each step of the handwashing performance.

Continuous reinforcement schedules. . .

can be unrealistic

may cause dependence

may result in satiation

Maintaining a Performance/ Product

Intermittment Reinforcement

Fixed		Variable	
ratio	interval	ratio	interval

Determine the Reinforcement Schedule

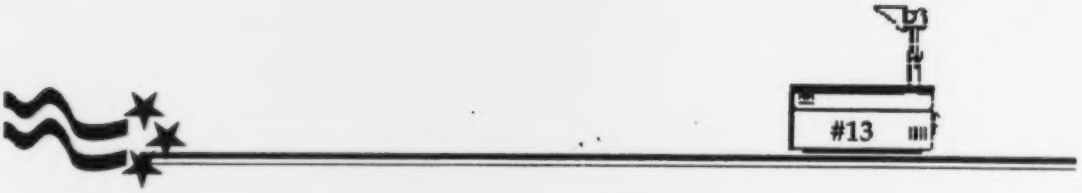
Directions: Read each example and determine if it is continuous (C) or intermittent reinforcement (I). If it is intermittemnt reinforcement, determine if it is a fixed interval (FI), fixed ratio(FR), variable interval (VI), or variable ratio (VR) schedule.

	CR	FI	FR	VI	VR
1. Each time John picks up his fork, he is reinforced.					
2. For each 5 minutes Sue is quiet, (not talking to herself or others) she receives a token.					
3. For every 5 math problems Cindy correctly solves, she receives 2 minutes of free time.					
4. Mark receives praise every time he correctly identifies a vocabulary word on a flash card.					
5. Bryan is reinforced for every 2nd, 8th, 12th, 16 th, and 19th correct response or an average of every 10th response.					
6. Joe is reinforced on the following schedule: 7 minutes, 6 minutes, 5 minutes, 6 minutes, 6 minutes, and 7 minutes or an average of 6 minutes.					

Types of Reinforcers

Primary reinforcers

Secondary reinforcers



Primary reinforcers . . .

do not rely on previous learning to have reinforcing value.

Examples:

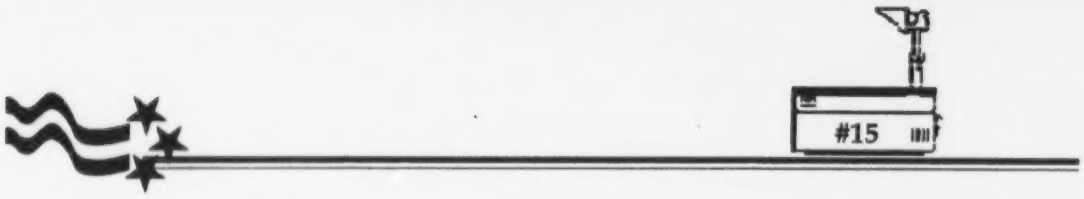
food
warmth
water

Secondary reinforcers . . .

do rely on previous learning to have reinforcing value.

Examples:

money
token
games



Reinforcers can be . . .

naturally occuring

Examples:

- social
- events

or contrived

Examples:

- tokens
- activities/objects

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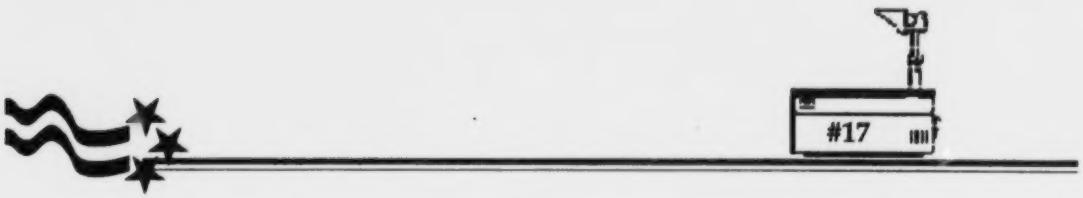
How To Identify Potential Reinforcers

Observe in natural settings

Ask caregiver/significant other

Observe in structured settings

Ask student



Points to Remember When Choosing Reinforcers

Use the philosophy of "least intrusive" reinforcement.

Move to naturally occurring reinforcement as soon as possible.

Use chronologically age appropriate reinforcers.

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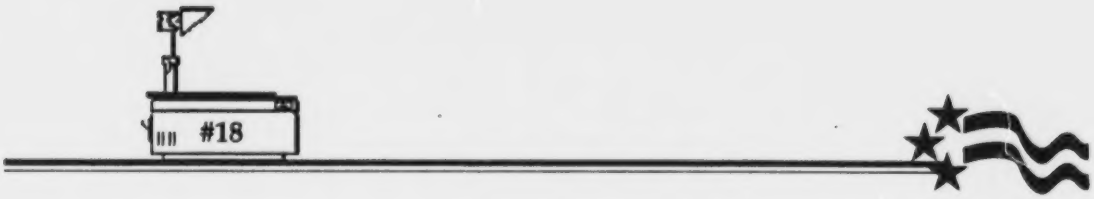

A Reinforcer Hierarchy

Food

Toys and Activities

Tokens

Approval

Self-praise

Delivering Intruction

I. *Instructional Objective*

Student: David Teacher: Jones Session Length: 10 min. Performance/Product/Goals: handwashing

Performance objective: Given the cue, "Time

Behavior: Indep. wash hands Condition: to get ready for lunch" Criteria: 80% 3 consecutive days

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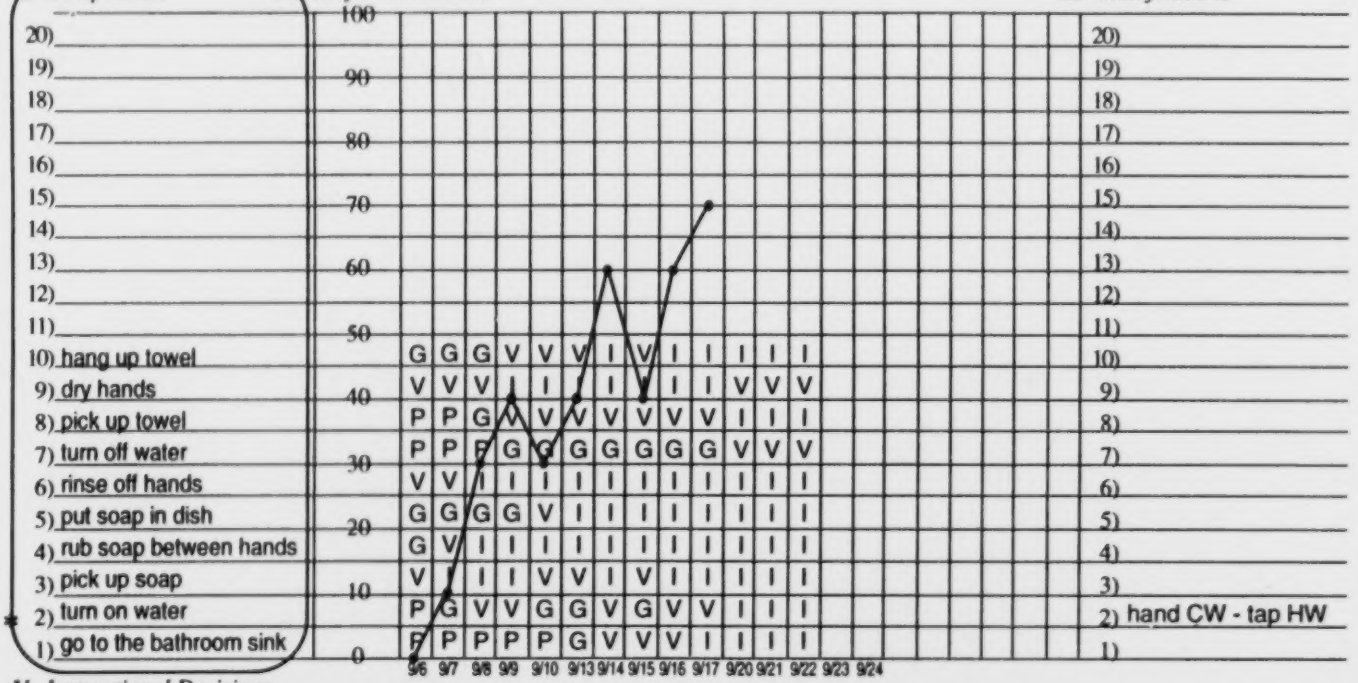

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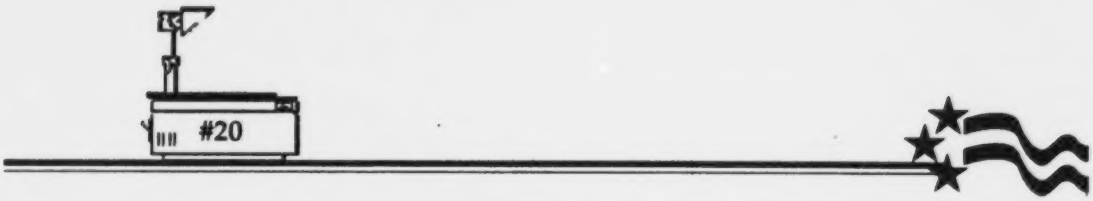


Instructional Delivery Techniques

antecedent prompt and test

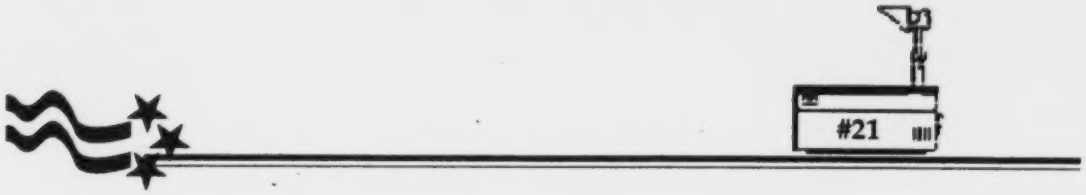
antecedent prompt and fade

time delay

graduated guidance

most-to-least prompting

least-to-most prompting



Antecedent Prompt and Test

Teacher provides the correct response and asks for a response without benefit of the prompt.

Example:
The teacher points to a nickel in a group of mixed coins and says, "This is a nickel, point to the nickel."

The student points to the nickel without further prompting.

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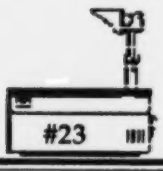
Antecedent Prompt and Fade

Teacher provides the correct response and then gradually fades it out.

Example:
The letter "R" is written for the student to trace, then a broken line "R" is provided for the student to trace.

Gradually broken lines are faded out and the student writes the letter "R" without benefit of a prompt.

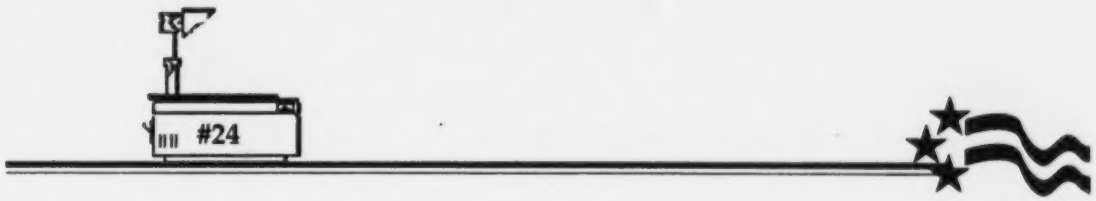


Time Delay

Teacher systematically increases the amount of time between the task direction and the assistance given to the student.

Example:
When teaching the student to "wash hands" the teacher first gives assistance to the student (0 second delay).

Subsequent trials increase the number of seconds before a prompt is given.

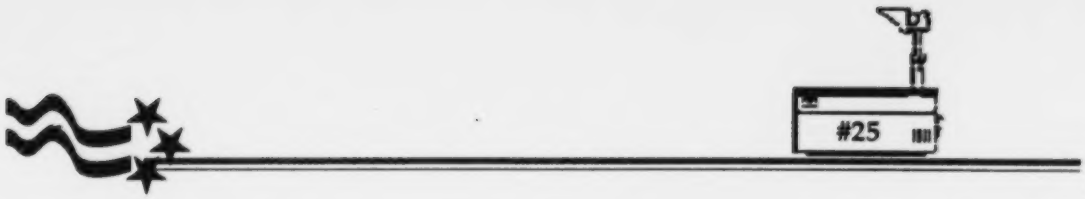


Graduated Guidance

Teacher provides full physical assistance decreasing to partial physical assistance, and finally to shadowing.

Assistance is then withdrawn or provided as needed.

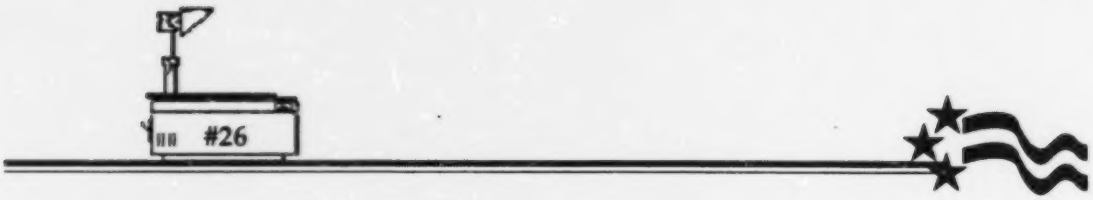
Example:
When teaching the student to "wash hands" the teacher first gives full physical assistance to move the student through the performance.



Most-to-Least Prompting

A hierarchiacal prompting system where the teacher begins with the most assistance delivered initially and gradually decreases assistance.

Example:
When providing instruction in "washing hands," the teacher begins by physically guiding the student through the entire instructional sequence.



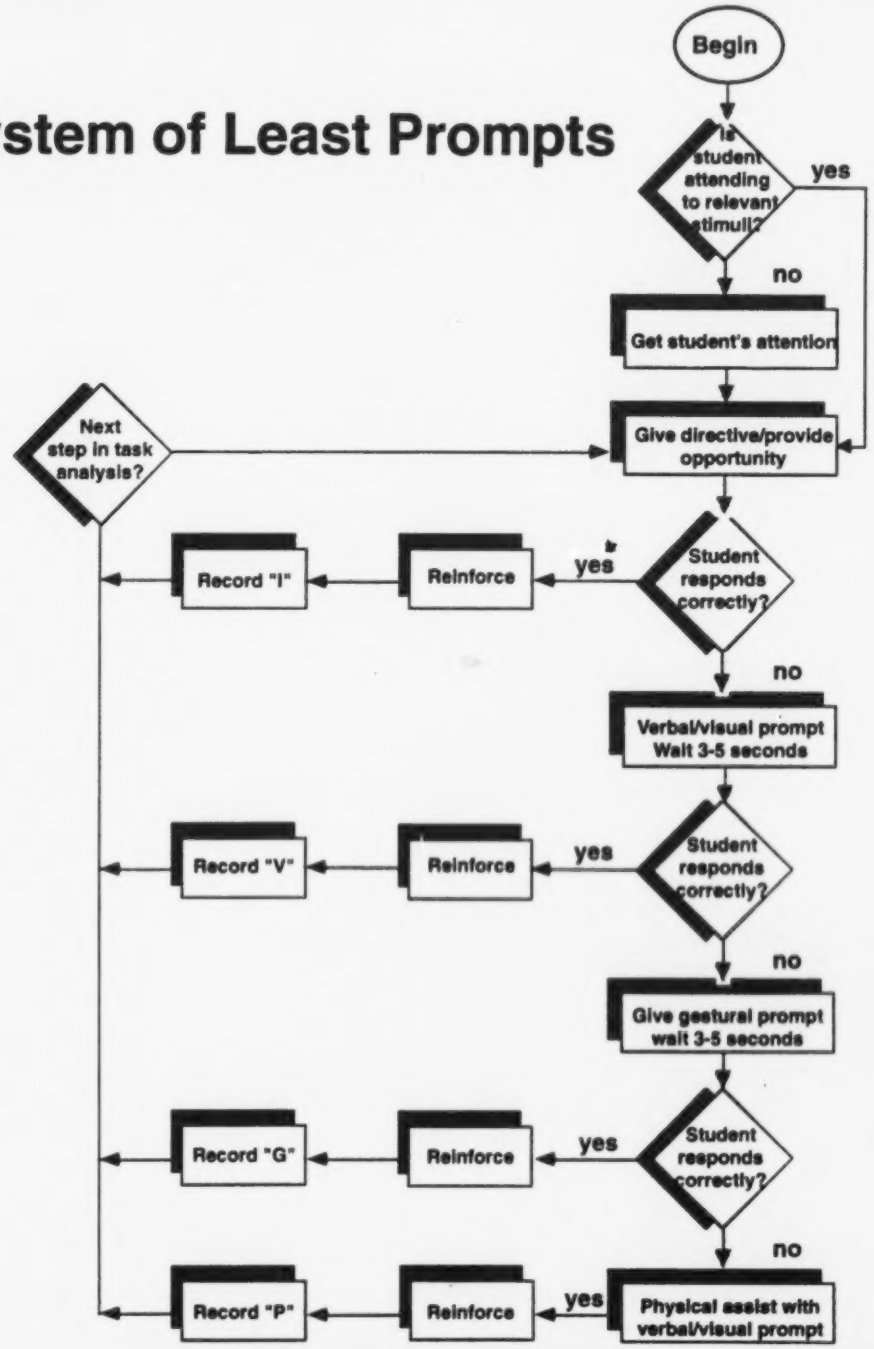
Least-to-Most Prompting

A hierarchiacal prompting system where the teacher begins with the least assistance delivered initially.

More assistance is provided as needed.

Example:
When providing instruction in "washing hands," the teacher begins by saying, "It's time to get ready for lunch" and gives an opportunity for an independent response.

System of Least Prompts



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Delivering Intruction

I. *Instructional Objective*

Student: David Teacher: Jones Session Length: 10 min. Performance/Product/Goals: handwashing

Performance objective: _____

Behavior: Indep. wash hands Condition: Given the cue, "Time to get ready for lunch" Criteria: 80% 3 consecutive days

Setting(s): bathroom sink Reinforcer(s): "good job" Schedule: continuous R+ for each component

II. *Components* IV. *Performance Data* III. *Modifications*

	9/6	9/7	9/8	9/9	9/10	9/13	9/14	9/15	9/16	9/17	9/20	9/21	9/22	9/23	9/24	III. Modifications
10) hang up towel	G	G	G	V	V	V	I	V	I	I	I	I	I			10)
9) dry hands	V	V	V	I	I	I	I	I	I	I	V	V	V			9)
8) pick up towel	P	P	G	V	V	V	V	V	V	V	I	I	I			8)
7) turn off water	P	P	P	G	G	G	G	G	G	G	V	V	V			7)
6) rinse off hands	V	V	I	I	I	I	I	I	I	I	I	I	I			6)
5) put soap in dish	G	G	G	G	V	I	I	I	I	I	I	I	I			5)
4) rub soap between hands	G	V	I	I	I	I	I	I	I	I	I	I	I			4)
3) pick up soap	V	I	I	I	V	V	I	V	I	I	I	I	I			3)
* 2) turn on water	P	G	V	V	G	G	V	G	V	V	I	I	I			2) hand CW - tap HW
1) go to the bathroom sink	P	P	P	P	P	G	V	V	V	I	I	I	I			1)

V. *Instructional Decisions*

Date	Trend/Mean	Decision
9/17/94	accelerating/38%	No change
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Performance objective: Given the cue, "Time

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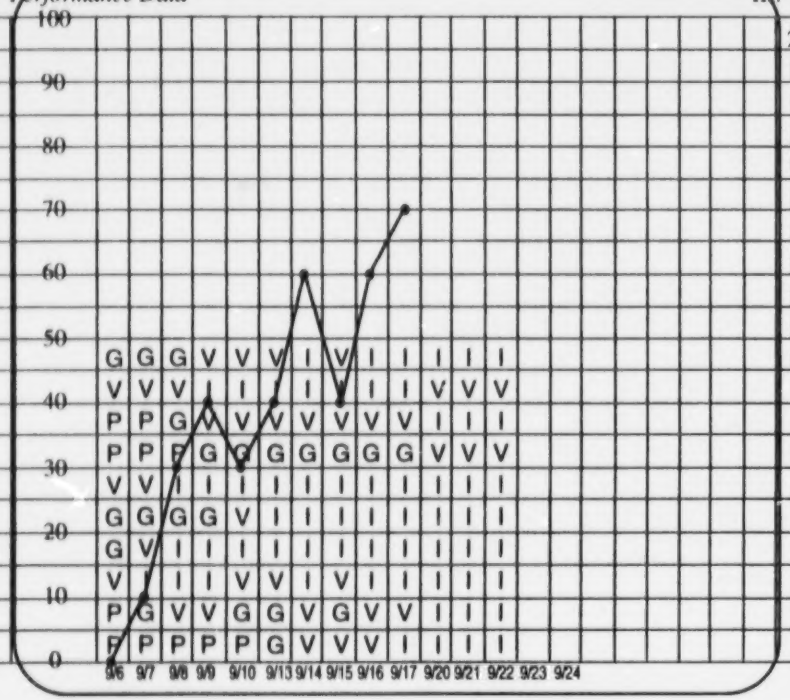
Setting(s): bathroom sink Reinforcer(s): "good job" Schedule: continuous R+ for each component

II. *Components*

20)
19)
18)
17)
16)
15)
14)
13)
12)
11)
10) hang up towel
9) dry hands
8) pick up towel
7) turn off water
6) rinse off hands
5) put soap in dish
4) rub soap between hands
3) pick up soap
* 2) turn on water
1) go to the bathroom sink

IV. *Performance Data*



III. *Modifications*

20)
19)
18)
17)
16)
15)
14)
13)
12)
11)
10)
9)
8)
7)
6)
5)
4)
3)
2) hand CW - tap HW
1)

V. *Instructional Decisions*

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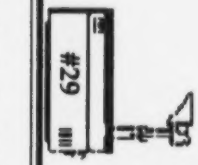

Delivering Intruction

I. *Instructional Objective*

Student: _____ Teacher: _____ Session Length: 10 min. Performance/Product/Goals: PB cracker making

Performmance objective: _____ Given a jar of peanut butter,

Behavior: make a PB cr'ker Condition: crackers, and knife Criteria 80% independent responses; 3 cons.days

Setting(s): kitchen Reinforcer(s): "good job" Schedule: continuous R+ for each step

II. *Components* IV. *Performance Data* III. *Modifications*

20)	100	20)
19)	90	19)
18)		18)
17)	80	17)
16)		16)
15)	70	15)
14)		14)
13)	60	13)
12)		12)
11)	50	11)
10) eat the cracker		10)
9) put the lid on the jar	40	9)
8) put down the knife		8)
7) spread the PB on the c'ker	30	7)
6) pick up the cracker		6)
5) scoop some PB	20	5)
4) put the knife in the jar		4)
3) pick up the knife	10	3)
2) open the jar		2)
1) get the jar of PB	0	1)

V. *Instructional Decisions*

Date Trend/Mean Decision

Scoring Key
I = Independent
V = Verbal/Visual
G = Gesture
P = Physical Assist

Source: Adapted from Assessment of individuals with Severe Handicaps (p. 272) by D. Browder, 1987, Baltimore, MD: Paul H. Brookes, Copyright 1987 by Paul H. Brooks Publishing Company

Delivering Intruction

I. *Instructional Objective*

Student: David Teacher: Jones Session Length: 10 min. Performance/Product/Goals: handwashing

Performance objective:

Behavior: Indep. wash hands Condition: Given the cue, "Time to get ready for lunch" Criteria: 80% 3 consecutive days

Setting(s): bathroom sink Reinforcer(s): "good job" Schedule: continuous R+ for each component

II. *Components* IV. *Performance Data* III. *Modifications*

	Components	9/6	9/7	9/8	9/9	9/10	9/13	9/14	9/15	9/16	9/17	9/20	9/21	9/22	9/23	9/24	Modifications
20)																	20)
19)																	19)
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16)																	16)
15)																	15)
14)																	14)
13)																	13)
12)																	12)
11)																	11)
10)	hang up towel	G	G	G	V	V	V	I	V	I	I	I	I	I			10)
9)	dry hands	V	V	V	I	I	I	I	I	I	I	V	V	V			9)
8)	pick up towel	P	P	G	V	V	V	V	V	V	V	I	I	I			8)
7)	turn off water	P	P	P	G	G	G	G	G	G	G	V	V	V			7)
6)	rinse off hands	V	V	I	I	I	I	I	I	I	I	I	I	I			6)
5)	put soap in dish	G	G	G	G	V	I	I	I	I	I	I	I	I			5)
4)	rub soap between hands	G	V	I	I	I	I	I	I	I	I	I	I	I			4)
3)	pick up soap	V	I	I	I	V	V	I	V	I	I	I	I	I			3)
* 2)	turn on water	P	G	V	V	G	G	V	G	V	V	I	I	I			2) hand CW - tap HW
1)	go to the bathroom sink	P	P	P	P	P	G	V	V	V	I	I	I	I			1)

100 90 80 70 60 50 40 30 20 10 0

V. *Instructional Decisions*

Date	Trend/Mean	Decision
9/17/94	accelerating/38%	No change
9/22/94	Mastery/80%	Extend performance (generalization)

Scoring Key
I = Independent
V = Verbal/Visual
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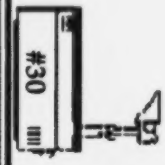

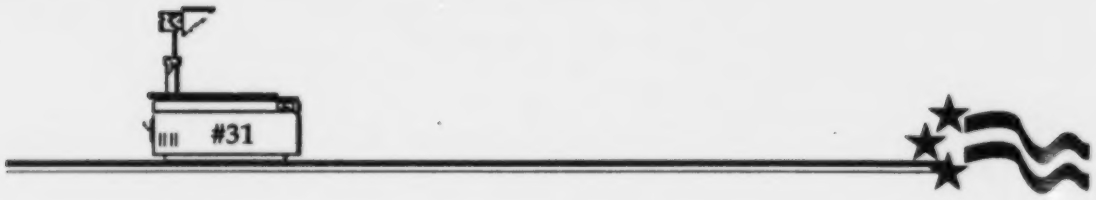

Preliminary Analysis Rules

At least 8 and no more than 20 opportunities to respond.

A least 6 data points.

No more than 4 days break in instruction.

Source: Adapted From Browder, D. (1991) *Assessment of individuals with severe disabilities: An applied behavior approach to life skills assessment*, 2nd Edition. Baltimore: Paul H. Brookes Publishing Co.

Delivering Intruction

I. *Instructional Objective*

Student: David Teacher: Jones Session Length: 10 min. Performance/Product/Goals: handwashing

Performance objective: Given the cue, "Time

Behavior: Indep. wash hands Condition: to get ready for lunch" Criteria: 80% 3 consecutive days

Setting(s): bathroom sink Reinforcer(s): "good job" Schedule: continuous R+ for each component

II. *Components* **IV. *Performance Data*** **III. *Modifications***

	Components	9/6	9/7	9/8	9/9	9/10	9/13	9/14	9/15	9/16	9/17	9/20	9/21	9/22	9/23	9/24	Modifications
20)																	20)
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10)	hang up towel	G	G	G	V	V	V	I	V	I	I	I	I	I			10)
9)	dry hands	V	V	V	I	I	I	I	I	I	I	V	V	V			9)
8)	pick up towel	P	P	G	V	V	V	V	V	V	V	I	I	I			8)
7)	turn off water	P	P	P	G	G	G	G	G	G	G	V	V	V			7)
6)	rinse off hands	V	V	I	I	I	I	I	I	I	I	I	I	I			6)
5)	put soap in dish	G	G	G	G	V	I	I	I	I	I	I	I	I			5)
4)	rub soap between hands	G	V	I	I	I	I	I	I	I	I	I	I	I			4)
3)	pick up soap	V	I	I	I	V	V	I	V	I	I	I	I	I			3)
* 2)	turn on water	P	G	V	V	G	G	V	G	V	V	I	I	I			2) hand CW - tap HW
1)	go to the bathroom sink	P	P	P	P	P	G	V	V	V	I	I	I	I			1)

100 90 80 70 60 50 40 30 20 10 0

V. *Instructional Decisions*

Date	Trend/Mean	Decision
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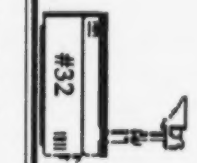


Instructional Decision Making

Analyze Visually
- Mastery
- No Progress

Determine Progress
- Draw slope
- Calculate mean

Make Decision
- Refer to Decision Rules

Source: Adapted From Browder, D. (1991) *Assessment of individuals with severe disabilities: An applied behavior approach to life skills assessment*, 2nd Edition. Baltimore: Paul H. Brookes Publishing Co.

Delivering Intruction

I. *Instructional Objective*

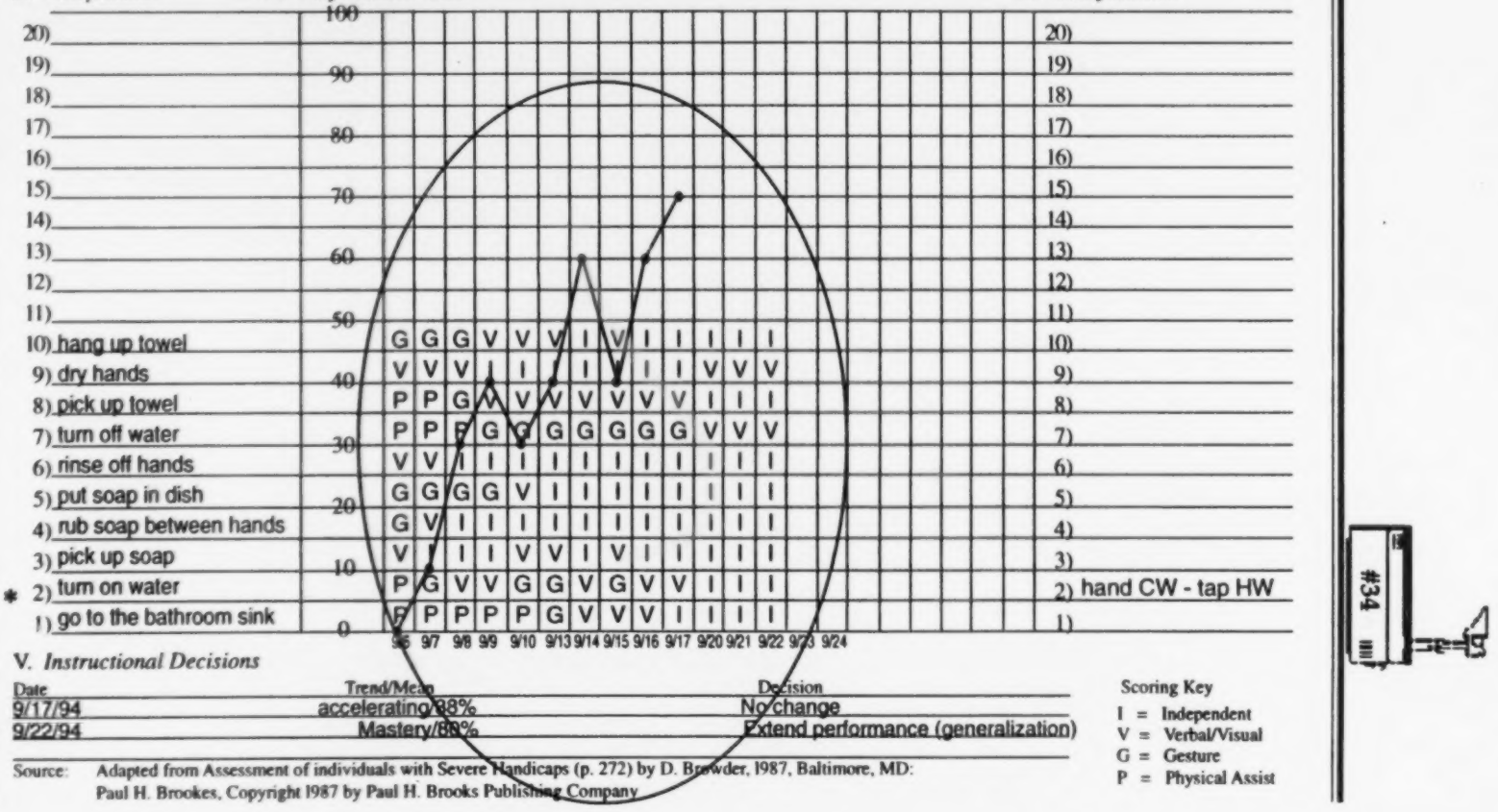
Student: David Teacher: Jones Session Length: 10 min. Performance/Product/Goals: handwashing

Performance objective: Given the cue, "Time

Behavior: Indep. wash hands Condition: to get ready for lunch" Criteria: 80% 3 consecutive days

Setting(s): bathroom sink Reinforcer(s): "good job" Schedule: continuous R+ for each component

II. *Components* IV. *Performance Data* III. *Modifications*



V. *Instructional Decisions*

Date	Trend/Mean	Decision
9/17/94	accelerating/88%	No change
9/22/94	Mastery/88%	Extend performance (generalization)

Scoring Key
I = Independent
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Delivering Intruction

I. *Instructional Objective*

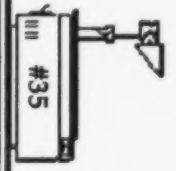
Student: David Teacher: Jones Session Length: 10 min. Performance/Product/Goals: handwashing

Performance objective: Given the cue, "Time to get ready for lunch"

Behavior: Indep. wash hands Condition: Criteria: 80% 3 consecutive days

Setting(s): bathroom sink Reinforcer(s): "good job" Schedule: continuous R+ for each component

II. *Components* IV. *Performance Data* III. *Modifications*



	Components	9/6	9/7	9/8	9/9	9/10	9/13	9/14	9/15	9/16	9/17	9/20	9/21	9/22	9/23	9/24	Modifications
10)	hang up towel	G	G	G	V	V	V	I	V	I	I	I	I	I			
9)	dry hands	V	V	V	I	I	I	I	I	I	I	V	V	V			
8)	pick up towel	P	P	G	V	V	V	V	V	V	V	I	I	I			
7)	turn off water	P	P	P	G	G	G	G	G	G	G	V	V	V			
6)	rinse off hands	V	V	I	I	I	I	I	I	I	I	I	I	I			
5)	put soap in dish	G	G	G	G	V	I	I	I	I	I	I	I	I			
4)	rub soap between hands	G	V	I		I	I	I	I	I	I	I	I	I			
3)	pick up soap	V	I	I		V	V	I	V	I	I	I	I	I			
* 2)	turn on water	P	G	V	V	G	G	V	G	V	V	I	I	I			2) hand CW - tap HW
1)	go to the bathroom sink	P	P	P	P	P	G	V	V	V	I	I	I	I			

V. *Instructional Decisions*

Date	Trend/Mean	Decision
9/17/94	accelerating/38%	No change
9/22/94	Mastery/80%	Extend performance (generalization)

Scoring Key
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Lehigh Decision Rules for Data Analysis

Part 1. Biweekly Reviews

Category	Data Pattern	Decision Rule
1. Mastery	Criteria achieved during decision phase	Extend performance (fluency, generalization)
2. No progress	Same mean as baseline *or* No independent responses	a.First period of review, wait 2 more weeks - change b. After 4 weeks, simplify skill
3. Adequate progress	Trend is accelerating or flat, and mean is higher by 5% or more.	Make no changes
4. Inadequate progress	Trend is accelerating or flat, and mean is higher by less than 5%. *or* Trend is flat, same mean.	Improve antecedents (e.g. prompting strategies)
5. Motivation problem	Trend is decelerating regardless of mean change. *or* Trend is accelerating or flat, and mean is lower.	Improve motivation

Source: Adapted From Browder, D. (1991) *Assessment of individuals with severe disabilities: An applied behavior approach to life skills assessment*, 2nd (p. 124) Edition. Baltimore: Paul H. Brookes Publishing Co. ; Reprinted with permission.

Delivering Intruction

I. *Instructional Objective*

Student: _____ Teacher: _____ Session Length: _____ Performance/Product/Goals: _____

Performance objective: _____

Behavior: _____ Condition: _____ Criteria: 80%; 3 consecutive days

Setting(s): _____ Reinforcer(s): _____ Schedule: _____

II. *Components* IV. *Performance Data* III. *Modifications*

		9/2	9/3	9/4	9/5	9/6	9/9	9/10	9/11	9/12	9/13	9/16	9/17	9/18	9/19	9/20	9/23	9/24	9/25	9/26	9/27	
20)	100																					20)
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12)	60																					12)
11)																						11)
10) hang up towel	50	V	I	V	I		I	I	I	V	I	I	I	I	I	I	I	I	I	I	G	10)
9) dry hands		G	G	G	G		V	V	V	V	V	V	V	V	V	V	V	P	V	V	V	9)
8) pick up towel	40	P	P	P	P		V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	8)
7) turn off water		P	P	P	P		P	P	P	P	P	P	P	P	V	P	P	V	P	P	V	7)
6) rinse off hands	30	P	P	P	P		P	P	P	P	V	V	V	P	P	P	P	P	P	P	P	6)
5) put soap in dish		I	I	V	I		I	I	I	V	I	I	I	I	I	I	I	I	G	I	I	5)
4) rub soap betw'n hands	20	G	V	V	V		I	V	I	I	I	I	I	I	G	G	G	I	I	G	G	4)
3) pick up soap		P	P	P	P		G	G	V	V	G	G	G	G	V	V	V	G	V	G	G	3)
2) turn on water	10	P	P	P	P		G	P	P	P	P	P	P	P	P	V	V	V	P	V	P	2)
1) go to bathroom sink	0	P	P	P	P		P	P	P	P	P	P	P	P	P	V	V	V	V	V	V	1)

V. *Instructional Decisions*

Date	Trend/Mean	Decision

Scoring Key

I = Independent
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Delivering Intruction

I. *Instructional Objective*

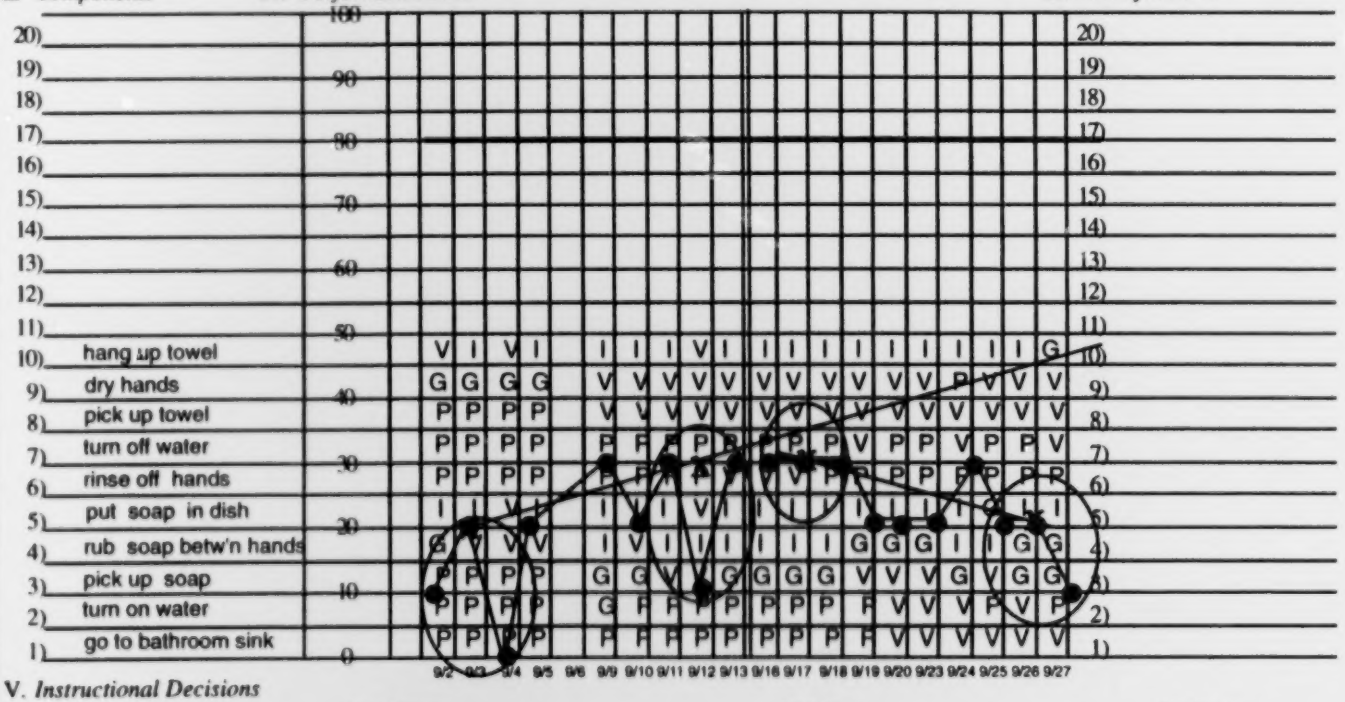
Student: _____ Teacher: _____ Session Length: _____ Performance/Product/Goals: _____

Performance objective: _____

Behavior: _____ Condition: _____ Criteria: 80%; 3 consecutive days

Setting(s): _____ Reinforcer(s): _____ Schedule: _____

II. *Components* IV. *Performance Data* III. *Modifications*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20) 19) 18) 17) 16) 15) 14) 13) 12) 11) 10) 9) 8) 7) 6) 5) 4) 3) 2) 1)
10) hang up towel
9) dry hands
8) pick up towel
7) turn off water
6) rinse off hands
5) put soap in dish
4) rub soap betw'n hands
3) pick up soap
2) turn on water
1) go to bathroom sink
9/2 9/3 9/4 9/5 9/6 9/9 9/10 9/11 9/12 9/13 9/16 9/17 9/18 9/19 9/20 9/23 9/24 9/25 9/26 9/27

V. *Instructional Decisions*

Date	Trend/Mean	Decision
9/13	acceleration/18.8	No change
9/27	deceleration/23	Improve motivation

Scoring Key
I = Independent
V = Verbal/Visual
G = Gesture
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Delivering Intruction

I. *Instructional Objective*

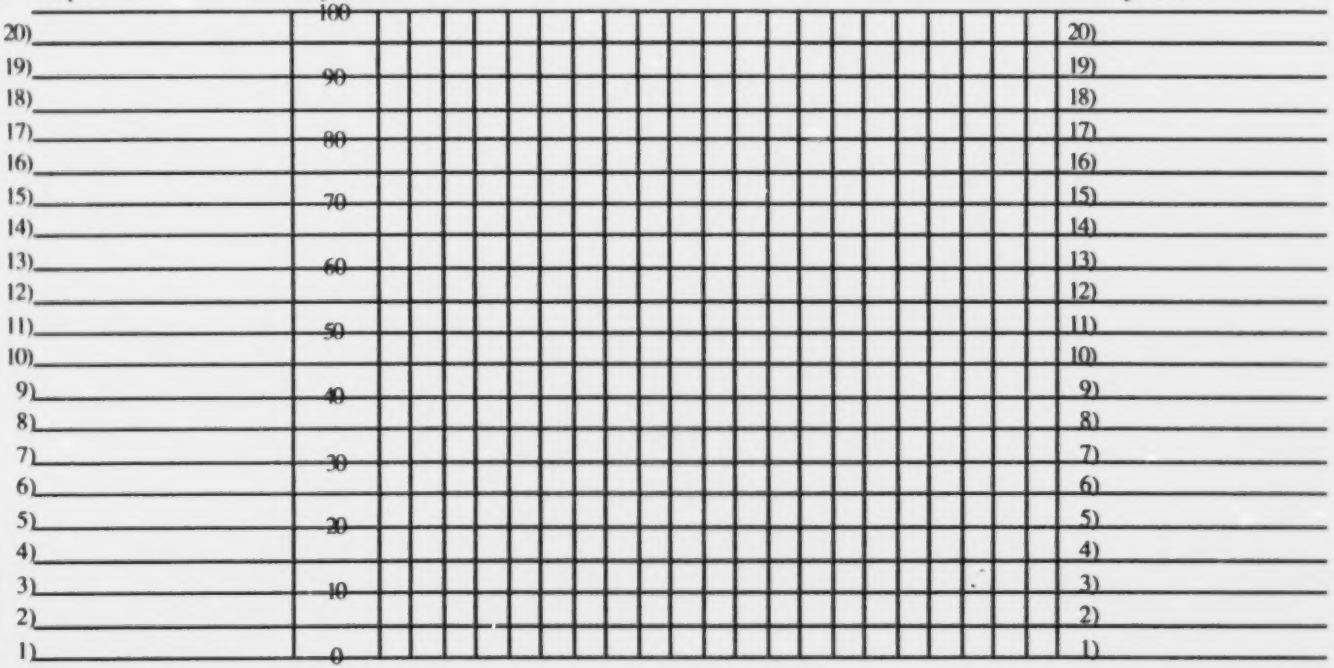
Student: _____ Teacher: _____ Session Length: _____ Performance/Product/Goals: _____

Performance objective: _____

Behavior: _____ Condition: _____ Criteria: _____

Setting(s): _____ Reinforcer(s): _____ Schedule: _____

II. *Components* IV. *Performance Data* III. *Modifications*



V. *Instructional Decisions*

Date Trend/Mean Decision

Scoring Key

I = Independent
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G = Gesture
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Pre/Post Test

T F 1) The system of least prompts requires a prompt hierarchy of at least 4 prompts.

T F 2) An interval schedule of reinforcement is recommended for teaching new skills.

T F 3) Praise is considered a primary reinforcer.

T F 4) If a student has poor communcation skills, it is extremely difficult to determine consequences of reinforcing value.

T F 5) A teacher needs only to be concerned with teaching a new skill to criterion because a student will maintain the new behavior indefinitely once it has been developed to that level.

T F 6) Verbal prompts are more intrusive than physical prompts.

T F 7) Bounce data refer to data which are highly variable.

T F 8) An accelerating trend line would require that the teacher analyze steps in the task analysis for difficulty and simplify the task analysis.

T F 9) Data must be collected a minimum of 6 times in a 2 week period if the teacher is to make instructional decison based on this data.

T F 10) Trend estimation suggests to teachers the general direction of learner progress.

Trainee Notes

Module 4

Instructional Teaming Part B

Building Inclusive Schools

Innovative Practices that Support Students with Diverse Learning Abilities in Neighborhood Schools

Developed by the

Kansas Project for the Utilization of Full Inclusion Innovations for Students with Severe Disabilities

The Purpose of this Series

This series will: 1) promote the widespread use of promising, nationally recognized practices advocating fully inclusive education for students with diverse learning abilities in their neighborhood schools, and 2) provide an instructional package that promotes these promising practices through the unified effort of both regular and special education personnel.

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Schiefelbusch Institute for Life Span Studies
Kansas University Affiliated Program
2601 Gabriel
Parsons, Kansas 67357

Project Co-Directors
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Patti C. Campbell, Ed.D.

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Module 4

Instructional Teaming Part B Skills for Delivering Instruction

Trainer Guidelines

Developed by:

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2.0	Delivering Instruction	2
3.0	Performance/Product	5
4.0	Instructional Intervention	19
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6.0	Performance Data	27
7.0	Data-based Instructional Decisions	31

1.0 Overview

1.1 Objectives

Instructional Teaming Part B: Delivering Instruction Objectives Page 1 - Trainee Workbook

- ❑ *The trainee will...*

  design instruction based on performance assessement data that includes an identified performance/product, an instructional sequence, and modifications for a student with diverse learning abilities .

  collect and graph instructional data to make instructional decsisions for a student with diverse learning abilities.

1.2 Pretest

Optional - see Pre/Posttest Section

T#1

Instructional Teaming Part B: Delivering Instruction Objectives

The trainee will...

design instruction based on performance assessment data that includes an identified performance/product, an instructioanl sequence, and modifications for a student with diverse learning abilities.

collect and graph instructional data to make instructional decisions for a student with diverse learning abilities.

T#2

Using Performance Assessment
Part A: Reforming Assessment

Rethink

Reorganize

Rewrite

Redefine

Redetermine

Restructure

2.0 Delivering Instruction

2.1 Using Performance Assessment to Identify InstructionalNeeds

Using Performance Assessment
Page 2 - Trainee Workbook

- *The first step in delivering appropriate instruction is appropriate assessment. (This topic is addressed Instructional Teaming: Part A, Designing Instruction).*

- *To review, appropriate assessment requires the instructional team to*

  Rethink the student's current curriculum (IEP goals and objectives).

  Reorganize IEP goals into real-life, functional performance and/or products.

  Rewrite goals that do not lead to functional and/or age appropriate performance and products.

  Redefine the components (instructional objectives) of each real-life performance or product.

  Redetermine the criterion of successful performance (or acceptable product).

  Restructure conditions that typically evoke the performance.

- *What students know and do not know about the tasks they are asked to perform and products they produce is important in designing appropriate instruction.*

- *What to teach and how to design an appropriate delivery strategy is facilitated when the assessment process is reformed to provides instructional information*

2.2 Using Performance Assessment to Develop Instructional Interventions

UsingPerformance Assessment
Part B: Reforming Instruction
Page 3 - Trainee Workbook

- *The following module describes how to use information gleened from performance assessment to organize and deliver appropriate instructional interventions.*

- *First, the performance or product to result from the instruction is defined.*

- *Second, the intsructional sequence is delinated.*

- *Third, any instructional modifications are indicated.*

T#3

Using Performance Assessement
Part B: Reforming Instruction

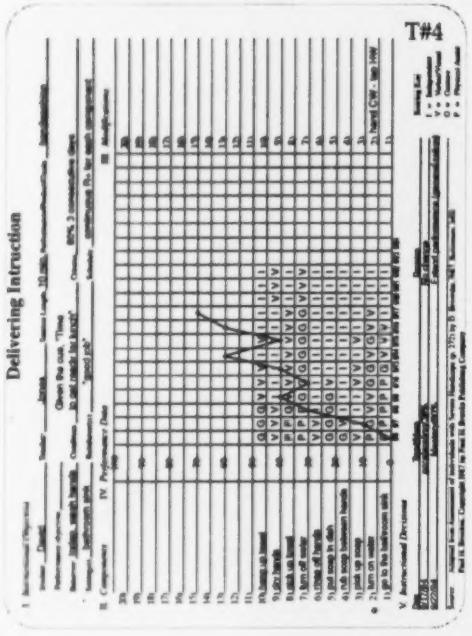
Define performance/product

Delineate instructional sequence

Indicate intructional modification

Collect/graph performance data

Make data -based instructional decisions



- *Fourth, performance data are collected and graphed.*

- *Finally, data based instructional decisions are made regarding student progress towards the target performance or product.*

Delivering Instruction
Page 4 - Trainee Workbook

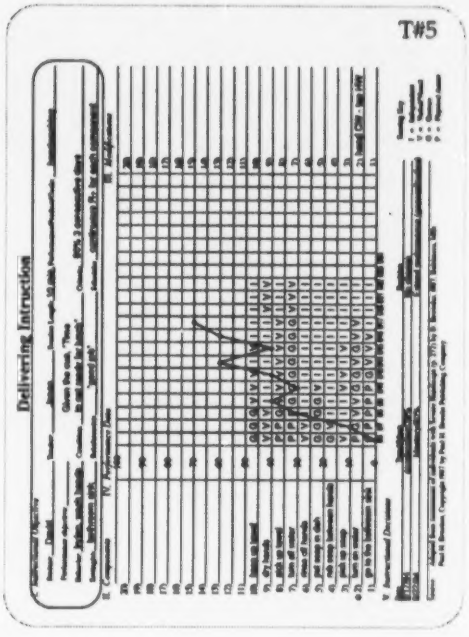
- *The remaining sections of this module describe how to use the five section "Delivering Instruction" form to deliver instruction to a student with diverse learning needs.*

- *The five sections include:*
  I. Instructional Objective
  II. Components
  III. Modifications
  IV. Performance Data
  V. Instructional Decision

3.0 Performance/Product

3.1 Identifying the target performance/product

T#5 Delivering Instruction - Section I Page - 5 Trainee Workbook



- *Section I-Instructional Objective Based on the information obtained from the performance assessment, the instructional team targets performance or a product for instruction.*

  For example : David's team targeted " handwashing" (based on performance assessment results) as requiring instruction.

  His instructional objective is:

  Given the prompt "Time to get ready to eat," David will independently wash his hands at the bathroom sink with 80% accuracy for 3 consecutive days.

- *An important part of any successful instructional sequence is a sound and carefully planned reinforcement strategy.*

  For example: David's instructional team thought that letting David do special chores would be reinforcing to David.

T#6

Positive reinforcement . . .

increases the chances of a behavior or performance occuring again or being maintained.

Examples:
Receiving a paycheck

Earning stars

Being told "Good job"

Being recognized

David's performance, however, actually decreased.

The team found out later that David thought he was being punished be cause he was not doing a good job.

- ❑ *The next section suggests strategies for choosing and using appropriate reinforcement strategies to acquire and maintain student performance.*

3.2 Acquiring and Maintaining a Performance or Product

Positive reinforcement. . .
Page 6 - Trainee Workbook

- ❑ *Positive reinforcement increases the chances of a behavior or performance occurring again or being maintained.*

- ❑ *People respond to a variety of positive reinforcers daily.*

Adults go to work everyday with the knowledge they will receive paychecks at the end of the payperiod.

Chances are that many people would find something else to do with their time if they did not receive this form of "positive reinforcement."

Children also seek forms of "positive reinforcement."

Those who finish their class work on time may earn a star or commendation for a "job well done."

Even seemingly negative things could be postively reinforcing to some children.

- *Things that increase the chances that an individual will repeat a performance (behavior) are positive reinforcers.*

  If a student continues to disrupt the class after being told he is the "class clown"(recognition) by the teacher then he is being "positively reinforced" by the teacher.

- *The type of reinforcement the team uses and the delivery schedule used will depend on what is reinforcing to the student and the instruc tional level (acquisition, maintenance, fluency, or generalization) the student is "learning the task."*

T#7

Schedules of Reinforcement

Continuous reinforcement

Intermittent reinforcement

Schedules of Reinforcement
Page 7- Trainee Workbook

- *There are two basic reinforcement schedules, continuous and intermittent.*

T#8

Continuous reinforcement...

means that the target behavior is reinforced each time it occurs.

Example:

David is told "good job" each time he correctly performs each step of the handwashing performance.

Continuous reinforcement . . .
Page 8 - Trainee Workbook

- *Continuous reinforcement. Each time the targeted behavior is exhibited, reinforcement is provided.*
- *When the student is first learning a performance, (acquisition level) it is best to reinforce (strengthen) the behavior each time it occurs.*
- *Only after the behavior is reinforced continuously for a period of time will it become habitual.*

  For example: David is told "good job" each time he correctly performs each step of the handwashing performance.
- *This schedule is typically used during the acquisition level of learning (when the student is acquiring a new performance).*

T#9

Intermittent reinforcement...

means that the target behavior is reinforced on a predetermined schedule.

Example:

David is told "good job" every other time he correctly performs each step of the handwashing performance.

Intermittent reinforcement . . .
Page 9 - Trainee Workbook

- *Intermittent reinforcement means the targeted behavior is reinforced on a predetermined schedule.*

  For example: David is told "good job"every other time he correctly performs each step of the handwashing performance.

- *This schedule is used after the be havior has been "acquired" to maintain or strengthen a behavior or performance.*

- *At the point where the student has met criterion for acquisition, continuous reinforcement is faded to an intermittent schedule of reinforcement.*

Continuous reinforcement schedules . . .
Page 10 - Trainee Workbook

- *Continuous reinforcement is unrealistic.*

  In the "real world" people are not reinforced for every correct performance or every acceptable product.

  For example: In the workforce, workers typically receive a paycheck (an example of positive reinforcement) only at the end of the pay period (biweekly, weekly or monthly).

- *If continuous reinforcement is not faded, the behavior may become too closely associated with the reinforcer.*

  For example: The student learns to expect the reinforcement and may not perform unless immediate

T#10

Continuous reinforcement schedules. . .

can be unrealistic

may cause dependence

may result in satiation

reinforcement is provided.

- *The student may become satiated with too much reinforcement.*

  For example: If the student receives reinforcment for every occurance of a performance, the reinforcer may lose its motivating effect.

- *Continuous reinforcement is useful during the acquisition of a new task or performance.*

  After a task or performance is acquired, intermittent schedules of reinforcement are used to maintain (or strengthen the occurance) of the task or performance across time.

T#11

Maintaining a Performance/ Product

Intermittment Reinforcement

Fixed		Variable	
ratio	interval	ratio	interval

Maintaining a Performance/ Product
Page 11 - Trainee Workbook

- *To promote maintenance of a newly acquired skill or performance, the teacher moves to an intermittent, or less than continuous, schedule of reinforcement.*

- *Possible intermittent reiforcement schedules include fixed and variable schedules.*

- *Fixed ratio schedules require that the student exhibit a behavior or performance a specified number of times*

before reinforcement is given.

For example: David is reinforced every third time he cleans the table correctly.

- *Fixed interval schedules require that a specified amount of time passes before reinforcement occurs.*

  For example: David works at the computer for 10 minutes before he gets a break.

- *Variable ratio schedules require that the student exhibit a behavior or performance a varying number of times before reinforcement is given.*

  For example: David is reinforced for the first, third, and sixth table he cleans correctly.

- *Variable interval schedules require that a varying amount of time passes before reinforcemnt occurs.*

  For example: David is reinforced at 2 minutes, 6 minutes, 10 minutes for on task work at the computer.

  (An average of 6 minutes or VI:6)

- *Variable schedules are useful in maintaining high rates of responding.*

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A#1

Determine the Reinforcement Schedule

Directions: Read each example and determine if it is continuous (C) or intermittent reinforcement (I). If it is intermittent reinforcement, determine if it is a fixed interval (FI), fixed ratio(FR), variable interval (VI), or variable ratio (VR) schedule.

	C/I	R	FR	VI	VR
1. Each time John picks up his fork, he is reinforced.					
2. For each 5 minutes Suy is quiet, (not talking to herself or others) she receives a token.					
3. For every 5 math problems Cindy correctly solves, she receives 2 minutes of free time.					
4. Mark receives praise every time he correctly identifies a vocabulary word on a flash card.					
5. Bryan is reinforced for every 2nd, 8th, 12th, 16 th, and 19th correct response or an average of every 10th response.					
6. Joe is reinforced on the following schedule: 7 minutes, 6 minutes, 3 minutes, 6 minutes, 6 minutes, and 7 minutes or an average of 6 minutes.					

Determine the Reinforcement Schedule
Page 12 - Trainee Workbook

- ❑ *Ask trainees to indicate if the example demonstrates a continuous or intermittent reinforcement schedule.*

  If it demonstrates intermittent reinforcement then trainees should indicate the type (variable ratio, fixed ration, variable interval, or fixed interval).

3.3 Selecting Appropriate Reinforcers

Types of Reinforcers
Page 13 - Trainee Workbook

- ❑ *Once the schedule of reinforcement is determined, the teacher must choose appropriate reinforcers to use during instruction.*

- ❑ *Remember, positive reinforcement is the contingent presentation of a consequence that immediately follows a behavior or preformance and increases the likelihood of the behavior or performance occuring again.*

- ❑ *Positive reinforcers are those consequences that are made contingent upon a behavior that increase the likelihood of the performance of that behavior.*

T#12

Types of Reinforcers

Primary reinforcers

Secondary reinforcers

- *In other words, if a reinforcer is motivating to the student, he/she will perform the desired behavior in order to receive that reinforcement.*
- *Two types of reinforcers are: primary reinforcers and secondary reinforcers.*

Primary reinforcers. . .
Page 14 - Trainee Workbook

- *A primary reinforcer is a consequence that does not rely on previous learning to have reinforcing value.*

  For example: food, warmth, water

T#13

Primary reinforcers . . .

do not rely on previous learning to have reinforcing value.

Examples:
food
warmth
water

Secondary reinforcers. . .
Page 15 - Trainee Workbook

- *A secondary reinforcer is a consequence that relies on previous learning to have reinforcing value.*

  For example: money, tokens, games

- *Secondary reinforcers acquire value when they are paired with primary reinforcers or with other secondary reinforcers that have been learned.*

  For example: money acquires value when it is used to pur-

T#14

Secondary reinforcers . . .

do rely on previous learning to have reinforcing value.

Examples:
money
token
games

80

chase something desired or valued.

- *Secondary reinforcers frequently used in school settings include*
  stars,
  grades,
  verbal approval,
  tokens, and
  special activities

- *Secondary reinforcers have some distinct advantages over primary reinforcers.*

  They are typically not as affected by satiation as primary reiforcers.

  Secondary reinforcers are more easily controlled and manipulated by the teacher.

T#15

Reinforcers can be . . .

naturally occuring

Examples:

social
events

or contrived

Examples

tokens
activities/objects

T#15 Reinforcers can be . . .
Page 16 - Trainee Workbook

- *Reinforcers can be . . .*
  naturally occuring, that is, something that already exist as a part of the natural environment.

  For example: some naturally occuring social reinforcers include:
  smiles,
  praise,
  attention, and
  friendly remarks

For example: some naturally occuring event reinforcers inlude: being class line leder, messenger, hall monitor, and extra minutes at recess.

- *Reinforcers can also be contrived, that is, something that is added to the environment.*

  For example: some contrived token reinforcers include:
  stars on a chart,
  colored chips, and
  points on the board

  For example: some contrived activity/object reinforcers include:
  toys,
  games,
  books, and
  clothing

How to Identify Potential Reinforcers
Page 17 - Trainee Workbook

- *There are a number of ways to identify potential reinforcers:*

- *Observe the student in natural settings for a period of time (preferably several days).*

  Through observation the teacher can establish individual preferences such as preferred people, games, toys, and activities that have reinforcing value.

T#16

How To Identify Potential Reinforcers

Observe in natural settings

Ask caregiver/significant other

Observe in structured settings

Ask student

- ❑ *Ask or interview a caregiver/significant other about the student's preferences.*

  This technique can be particularly useful as the caregiver can offer insight into student preferences.

  Consider, however, that some reinforcers used at home may not always be feasible in the school setting.

- ❑ *Observe the student in structured settings.*

  This involves setting up a structured period where the student can sample many different potential reinforcers.

  Student reaction to each potential reinforcer is recorded.

  For example: A student is briefly allowed to sample a variety of items (food, toys, magazines, books, music, etc.) one at a time.

  Then the student is given the entire group of potential reinforcers and the interaction time with each is observed and recorded.

  As with observations in natural settings, this is a good method for determining reinforcers for student's with limited language skills.

- ❑ *Ask the student what he/she likes and dislikes.*

  For verbal students , this technique can be very effective.

  This technique can be useful for students with limited language if structured so that the student can participate.

Points to Remember When Choosing Reinforcers
Page 18 - Trainee Workbook

- ❑ *There are a few points to remember when using reinforcers:*
- ❑ *Use the philosophy of "least intrusive" reinforcement.*

  Begin with the assumption that naturally occurring reinforcers will be adequate to acquire and maintain the behavior.

  Naturally occurring reinforcers, reduce the likelihood of drawing unnecessary attention to the student.

- ❑ *Move to naturally occuring reinforcers if contrived reinforcers are used.*

  For example: When teaching "sandwich making," a natural occuring reinforcer would be to eat the sandwich.

T#17

Points to Remember When Choosing Reinforcers

Use the philosophy of "least intrusive" reinforcement

Move to naturally occurring reinforcement as soon as possible

Use chronologically age appropriate reinforcers

- *Teaching in natural settings promotes use of natural reinforcers.*
- *Use chronologically age appropriate reinforcers.*

  For example: Reinforcers for young children should reflect the interests and activities of young children of the same age who do not have disabilities.

  Reinforcers for older children and youth should also mirror activities of similarly aged peers without disabilities.
- *Once a list of reinforcers is established, arrange a reinforcer hierarchy.*

T#18

A Reinforcer Hierarchy

- Food
- Toys and Activities
- Tokens
- Approval
- Self-praise

T#18 A Reinforcer Hierarchy
Page 19 - Trainee Workbook

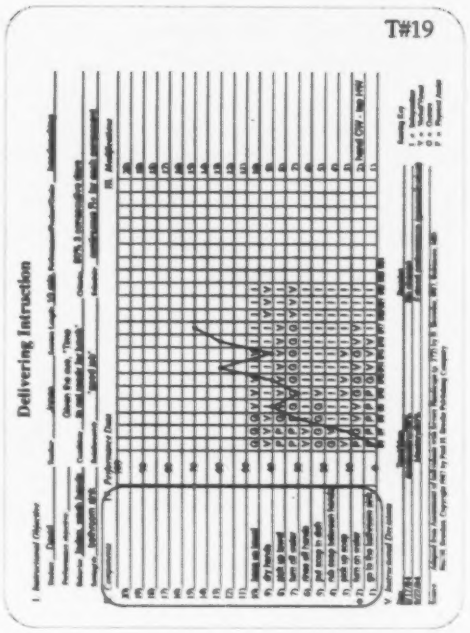
- *Snell and Grigg (1987) suggest movement down the following reinforcer hierarchy:*

  food;
  toys and leisure activities;
  tokens or payment with back-up reinforcers from edibles and other tangibles; parental, peer, and teacher approval; and self-praise

4.0 Delineate the Instructional Intervention

4.1 Choosing Instructional Interventions

T#19 Delivering Instruction - Section II
Page 20 - Trainee Workbook



- *Steps or components identified from the task analysis of the performance assessement are listed in Section II, Components.*

- *These components are recorded as statements beginning with action verbs on the far left hand column of the form.*

  For example:
  "go to the bathroom sink"

  Note that components (steps) are listed in the order they are performed from the bottom of the column up so that the data collection form can also serve as a graph of student performance.

- *Next, the instructional team determines an appropriate intervention strategy to deliver instruction.*

- *An instructional strategy is a replicable, systematic approach to providing instruction that addresses both antecedent and consequent events.*

T#20

Instructional DeliveryTechniques

antecedent prompt and test

antecedent prompt and fade

time delay

graduated guidance

most-to-least prompting

least-to-most prompting

For example: David's instructional team decided to use a least -to-most prompt (least prompts) hierarchy for delivering instruction.

- ❑ *The scoring key (bottom right hand corner) shows the prompt hierarchy chosen for David.*

  I= Independent,
  V=Verbal/Visual,
  G= Gesture, and
  P= PhysicalAssist

- ❑ *The instructional delivery sequence and prompt hierarchy chosen will depend on the needs of the student and the target performance or product.*

Instructional Delivery Techniques
Page 21 - Trainee Workbook

- ❑ *Six commonly used instructional delivery strategies (Wolery, Bailey, and Sugai, 1988) include:*

  antecedent prompt and test,
  antecedent prompt and fade,
  time delay,
  graduated guidance,
  most-to-least prompting, and
  least-to-most prompting.

T#21

Antecedent Prompt and Test

Teacher provides the correct response and asks for a response without benefit of the prompt.

Example:
The teacher points to a nickel in a group of mixed coins and says, "This is a nickel, point to the nickel."

The student points to the nickel without further prompting.

Antecedent Prompt and Test
Page 22 - Trainee Workbook

- ❑ *When using an antecedent prompt and test technique, the teacher provides the student with the correct*

response and then asks for a response without benefit of a prompt.

For example: The teacher points to a nickel in a group of mixed coins and says, "This is a nickel, point to the nickel."

The student points to the nickel with out further prompting.

Antecedent Prompts and Fade
Page 23 - Trainee Workbook

- *The teacher provides the correct response and then gradually fades itout.*

For example: The letter "R" is written for the student to trace, then a broken line "R" is provided to trace.

Gradually broken lines are faded out and the student writes the letter "R" without benefit of a prompt.

Time Delay
Page 24 - Trainee Workbook

- *In a time delay strategy the teacher systematically increases the amount of time between the task direction and the assistance given.*

For example: The teacher provides immediate assistance delivering a prompt (0 sec. delay).

Subsequent trials increase the number of seconds before assistance is given (2 seconds, 3 seconds, etc.).

T#22

Antecedent Prompt and Fade

Teacher provides the correct response and then gradually fades it out.

Example:
The letter "R" is written for the student to trace, then a broken line "R" is provided for the student to trace.

Gradually broken lines are faded out and the student writes the letter"R" without benefit of a prompt.

T#23

Time Delay

Teacher systematically increases the amount of time between the task direction and the assistance given to the student.

Example:

When teaching the student to"wash hands" the teacher first gives assistance to the student (0 second delay).

Subsequent trials increase the number of seconds before a prompt is given.

T#24

Graduated Guidance

Teacher provides full physical assisstance decreasing to partial physical assistance, and finally to shadowing.

Assistance is then withdrawn or provided as needed.

Example:
When teaching the student to "wash hands" the teacher first gives full physical assistance to move the student through the performance.

T#25

Most-to-Least Prompting

A hierarchical prompting system where the teacher begins with the most assistance delivered initially and gradually decreases assistance

Example:

When providing instruction in "washing hands," the teacher begins by physically guiding the student through the entire instructional sequence.

Graduated Guidance
Page 25 - Trainee Workbook

- *Teacher provides full physical assisstance decreasing to partial physical assistance, and finally to shadowing.*

  Assistance is then withdrawn or provided as needed.

  For example: When teaching the student to "wash hands" the teacher first gives full physical assistance to move the student through the performance.

  Gradually physical assistance is decreased to partial physical assistance.

  Finally, shadowing is substituted as partial physical assistance is decreased.

  The teacher is always within proximity to intervene and insure a successfully performance.

Most-to-Least Prompting
Page 26 - Trainee Workbook

- *A hierarchical prompting system where the teacher begins with the most assistance delivered initially.*

  Gradually, assistance is decreased according to the prompting hierarchy as the student becomes more skilled in task performance

For example: When providing instruction in "washing hands," the teacher begins by physically guiding the student through the entire instructional sequence.

Graudally less intrusive means such as gestures, modeling, or verbal prompts are substituted as the student becomes more skilled in the performance.

T#26 Least-to-Most Prompting
Page 27 - Trainee Workbook

- *A hierarchial prompting system where the teacher begins with the least assistance delivered intially.*

  More assistance is provided as needed.

  If the student fails to respond or responds incorrectly, the next higher level prompt is offered.

  Students receive only the level of assistance needed to perform.

  For example: The teacher says, "It's time to wash to get ready for lunch."

  If the student does not respond by moving towards the sink, the next more instrusive prompt is offered.

T#26

Least-to-Most Prompting

A hierarchial prompting system where the teacher begins with the least assistance delivered intially.

More assistance is provided as needed.

Example:
When providing instruction in "washing hands," the teacher begins by saying, "It's time to get ready for lunch" and gives an oportunity for an independent response.

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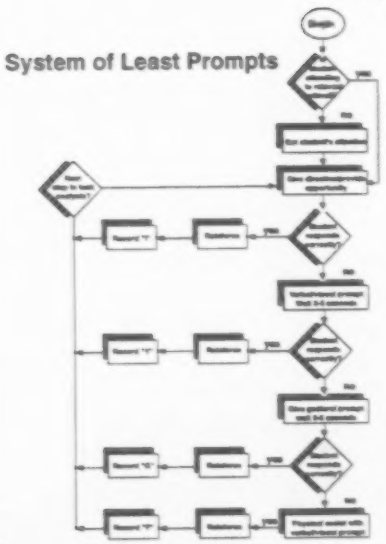
The teacher says (a verbal prompt) " David, go to the bathroom sink."

Each time the student fails to respond or responds incorrectly, the next more instrusive prompt is given.

- *Deciding what instructional intervention sequence is appropriate depends on the needs of the student and the performance or product to result from instruction*
- *An excellent description of the instructional sequences listed in this module can be found in Wolery, Bailey and Sugai (1988).*
- *For demonstration purposes, the example in the remaining sections of this module will use an "least intrusive prompts" instructional sequence.*

T#27



4.2 Using the System of Least Prompts as an Instructional Sequence

System of Least Prompts
Page 28 - Trainee Workbook

- *Delivering instruction using a least-to-most prompt (least prompts) hierarchy involves:*
  delivering a stimulus cue;
  providing an opportunity for independent preformance;
  providing assistance as needed; and
  providing positive reinforcement for correct responses (Wolery & Gast, 1984).

- ❑ *After getting the student's attention, a cue is given to initiate the stud ent's performance.*

  For example: The teacher announcing that "It's time to get ready for lunch" is David's cue "to wash his hands."

  The cue is consistently used to "let David know" when to independently wash his hands.

- ❑ *If the student responds correctly, reinforce and continue with the next step in the instructional sequence or the next trial.*

- ❑ *If there is an incorrect or no response in 3-5 seconds, the teacher uses the next least intrusive prompt in the hierarchy to tell the student what to do (a verbal prompt is used in this example).*

- ❑ *After the verbal prompt is given, wait 3-5 seconds.*

- ❑ *If the student responds correctly, reinforce and continue with the next step in the sequence or the next trial.*

- ❑ *If there is an incorrect or no response in 3-5 seconds, the next least intrusive prompt in the hierarchy (a gesture in this example) is used to indicate what the student is to do.*

- ❑ *If the correct response occurs, reinforce and continue with the next step*

in the sequence or the next trial.

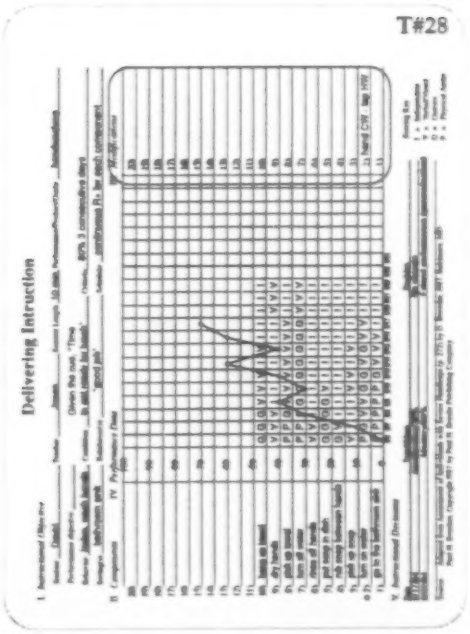
- *If the student does not respond in 3-5 seconds, or responds incorrectly, use the next least intrusive prompt in the hierarchy (a physical guidance prompt in this example) to guide the student through the correct motion.*

- *The system of least prompts easily lends itself to systematic instructional data collection.*

5.0 Instructional Modifications

5.1 Instructional Modifications

T#28 Delivering Instruction - Section III
Page 29 - Trainee Workbook



- *Instructional modifications are noted on the far right hand column, Section III-Modifications.*

- *Instructional modifications are typically determined from performance assessment data.*

- *For example: David's instructional team was concerned that presence at the sink was not a sufficient cue for David to turn the water to the proper temperture.*

  Results from David's performance assessement indicated that he typically used only cold water when washing is hands.

An additional assist or instructional modification could provide a clear cue to add hot water to the cold.

David's instructional team decided to modify the instruction so that after David turned on the cold water the teacher would first hold David's left hand under the cold water and gesture toward (the tap) the hot water knob.

- *Other instructional modifications could include partial particpation for students with physical or sensory disabilities.*

  For example: If a student is physically unable to turn on the water knob in the "hand washing" sequence, the teacher must always do this step for the student.

  This required assistance is noted in the modification section and not counted as an assisted step.

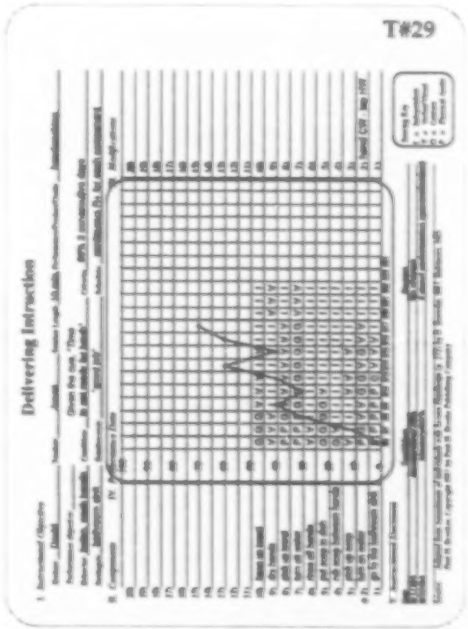
  The teacher always performs this step and instuction continues with the next step.

6.0 Performance Data

6.1 Instructional Data Collection

T#29 Delivering Instruction - Section IV Page 30 - Trainee Workbook

- *Data are collected and graphed on the grid, Section IV- Performance Data.*



- *The scoring key in the bottom right hand corner shows the prompt hierarchy.*

  For example: I= Independent, V= Verbal, G= Gesture, and P= Physical Assistance

- *Effective teachers find it time efficient to combine data collection and data graphing on the same form.*

- *This technique can be used to record prompting levels (such as the example in this module), task sequences, or dichotomous data (correct/incorrect).*

- *The following procedure is used after each component or step:*

  indicate the prompt required for a correct response or after each trial total the number of independent responses.

  For example: On the first day of instruction in "handwashing" David recieved physical assistance for 7 of the 10 steps in the performance sequence.

  A "P" is placed on the grid opposite each of these steps in the column dated 9/6.

  He required a gesture for 3 of the steps and a "G" was recorded opposite those steps.

- ❑ *The teacher now has a record of the student's responses to instruction (raw data).This raw data, however, does not provide much information to the teacher.*

  A clearer picture is provided when the raw data is graphed.

6.2 Instructional Data Graphing

- ❑ *The following procedure is used after two weeks of instruction:*

  determine the percentage of correct responses (# independent responses / # of steps or components in the performance sequence).

  place a large dot ● on the line across from the appropriate percentage for the independent responses for each trail.

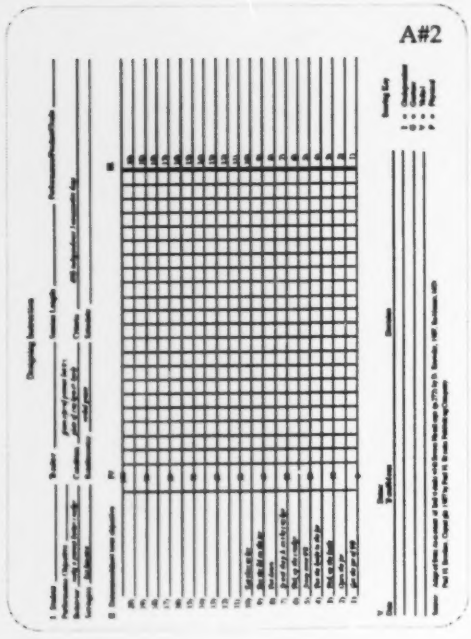
  Connect dots (data points) across days or trials with straight lines.

  For example: On the first day of instruction of David 's "handwashing" instruction there were 0 independent responses.

  The percentage (0/10) equals 0. A large dot (data point) is placed on the line across from the 0%.

  On the second day there was 1 independent response (1/10 = 10%).

  Connected data points with lines.



- ❑ *The teacher now has a graph of the student's performance across time.*

6.3 Implementing Instructional Data Collection and Graphing

A#2 Delivering Instruction - Activity Page 31 - Trainee Workbook

- ❑ *Each team will teach the performance, making a peanut butter cracker, using a "least prompts" instructional sequence.*

  One team member will take instructional data as another teaches the skill to a teammate who role plays a student with diverse learning needs.

- ❑ *Record the data from each training session on the Designing Instruction form.*

  Remember to start at the bottom and move up.

  Enter the letter that corresponds to the prompt (amount of assistance delivered) in the appropriate box.

  Each training session is entered in a different column.

- ❑ *Optional: Video tape each team during the practice.*

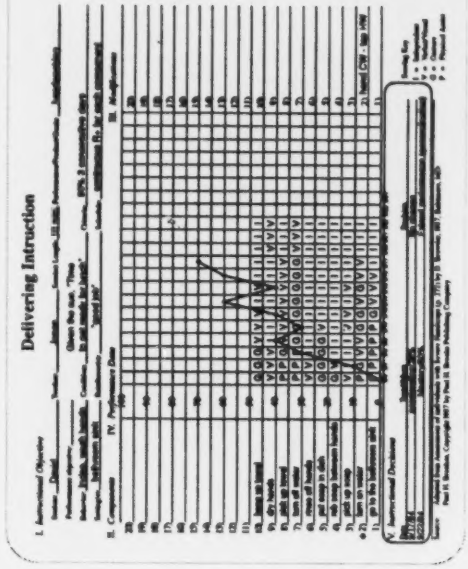
  Have each group present their videotape and data collection example for review.

7.0 Data-based Instructional Decisions

7.1 Analyzing Instruction

T#30 Delivering Instruction - Section V
Page 32 - Trainee Workbook

T#30



- *Section V is used to record data and instructional decisions.*
- *It includes space to record the date, the response trend and mean of independent responses,and the instructional decision.*
- *There are a number of decision making models that can be used to make instructional decisons.*
- *Typically these models require that the teacher provide instuction for a specified amount of time, record the student's responses, plot or graph the data points, and make a decison to change (or retain) teaching tactics depending on the students peformance during instruction.*
- *The Lehigh model for data evaluation (Browder, 1991) is a particularly useful model and is used in this module for demonstration purposes.*
- *Additional models for instructional decision making are summarized in Snell (1993), and Alberto and Troutman (1995).*

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T#31

Preliminary Analysis Rules

At least 8 and no more than 20 opportunities to respond

At least 6 data points

No more than 4 days break in instruction

Source: Adapted from: Browder, D. (1987). Assessment of individuals with severe handicaps (p.97). Baltimore, MD: Paul H. Brooks.

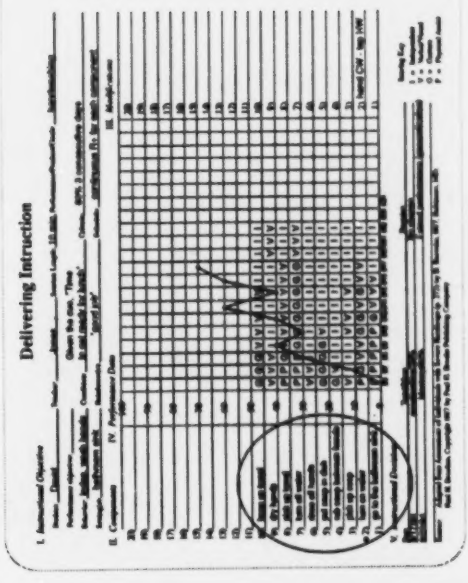
T#31 Preliminary Analysis Rules
Page 33 - Trainee Workbook

- *Borrowing heavily from Browder (1991) the following data analysis rules are followed before making an instructional decision:*

  The instructional sequence has at least 8 and no more that 20 opportunities to respond.

  Six data points with no more than 4 days break in instruction are recorded.

T#32



T#32 Delivering Instruction - Example I
Page 34 - Trainee Workbook

- *Preliminary analysis of David's "handwashing" instuction shows:*

  There are 10 opportunities to respond (10 components).

  Ten days (two instructional weeks) of data are recorded.

- *As minimum specifications are met an instructional decision can be made based on David's peformance.*

T#33 Instructional Decision Making
Page 35 - Trainee Workbook

- *Analyze Visually--First visually analyze the graph.*

  Was mastery achieved (criterion reached) or was there no progress (flat line)?

If the answer to both questions is NO, then progress must be determined.

- *Determine Progress--To make an estimation of progress the slope of the data (accelerating, decelerating or flat) is determined.*

  After determining the slope the mean of the data points is calculated.

- *Make Decision--After drawing the slope and calculating the mean, an instructional decision is made.*

  In this example, the instructional decision is made based on the decision rules from the Lehigh University model.

- *The following sections of this module describe this process in more detail.*

T#33

Instructional Decision Making

Analyze Visually
Mastery
No progress

Determine Progress
Draw slope
Calculate mean

Make Decision
Refer to Decison Rules

Source: Adapted from Snowden, D. (1987). Assessment of individuals with severe handicaps (p.97). Baltimore, MD: Paul H. Brooks.

7.2 Visual Analysis

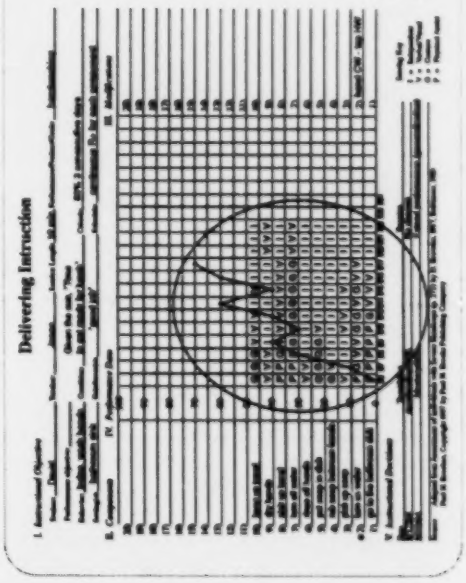
T#34 Delivering Instruction-Example II
Page 36 - Trainee Workbook

- *The first decision is based on a visual analysis of the data.*

- *The teacher asks, "Has mastery been achieved?*

  For example: In David's "handwashing instuction," the criterion for mastery is 80% for 3 consecutive days.

T#34



For Example: Visual analysis of David's data shows mastery has not been achieved.

David achieved 70% mastery on the last recorded day of instruction.

- ❑ *The teacher then asks, "Does the data indicate no progress (0 independent responses)?"*

  For example: In David's "hand-washing," instruction shows there are some independent responses.

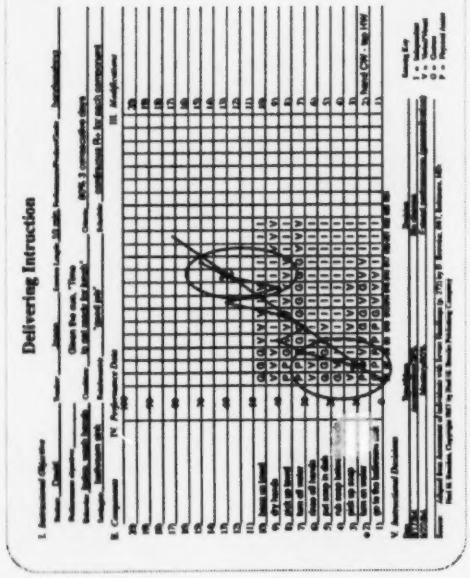
  Independent responses are recorded except on the first day of instruction.

- ❑ *If the answer to one of the questions was YES, the teacher will refer to the Decision Rules for the appropriate decision.*

- ❑ *As the answer to both questions was NO, the teacher needs to further analyze the data to determine the nature of the student's progress.*

  A more detailed description of using the Decision Rules is covered in a following section of this module.

T#35



7.3 Determining Progress

T#35

Delivering Instruction-Graphing Example
Page 37 - Trainee Workbook

- ❑ *To futher analyze the data the*

teacher will need to determine the slope of the progress and the mean number of independent responses.

- ❑ *The slope of progress can be accelerating (going up), decelerating (going down), or flat (no change).*
- ❑ *The following process is used to determine the slope of the student's progress:*

  Begin with the first two weeks of data (10 data points).

  Find the midpoint of the first three data points by making a large ***X*** *at the intersection of the second highest data point at day two (as on T#35; Page 37).*
- ❑ *Repeat this procedure for the last three data points (as on T#35; Page 37).*
- ❑ *Draw a line (the slope) that intersects the two* ***X****s and continues to the point where it crosses the criterion line (as on T#35; Page 37),*
- ❑ *Record the direction of the slope on the first line of Section V of the Delivering Instruction Form (as on T#35; Page 37).*

  Use the date where the last data point was made (as on T#35; Page 37).

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- ❑ *Calculate the mean number of independent responses using all of the data points in the two week period.*

  Add all percentage points and divide by the total number of percentage points.

  For example:

9/6	=	*0%*
9/7	=	*10%*
9/8	=	*30%*
9/9	=	*40%*
9/10	=	*no data*
9/13	=	*40%*
9/14	=	*60%*
9/15	=	*40%*
9/16	=	*60%*
9/17	=	*70%*
Total	=	*350/9 data points*
	=	*38.8%*

- ❑ *Record the mean number of independent responses (the magnitude of change) on the first line of Section V of the Delivering Instruction Form (as on T#35; Page 37).*

7.4 Making Instructional Decisons

Lehigh Decision Rules Part 1. Biweekly Reviews
Page 38 - Trainee Workbook

- ❑ *Once the slope and mean is determined, the teacher uses "decision making rules" to make an instructional decision that*

T#36

Lehigh Decision Rules
Part 1. Biweekly Reviews

Category	Data Pattern	Decision
1. Mastery	Criteria achieved during decision phase	Extend performance (fluency, generalization)
2. No progress	Same mean as baseline or No independent responses	a. First period of review, wait 2 more weeks - change b. After 6 weeks, simplify skill.
3. Adequate progress	Trend is accelerating or flat, and mean is higher by 5% or more.	Make no changes
4. Inadequate progress	Trend is accelerating or flat & mean is higher by less than 5% or Trend is flat, same mean.	Improve antecedents (e.g., prompting strategies.
5. Motivation problem	Trend is decelerating regardless of mean change or Trend is accelerating or flat, and mean is lower.	Improve motivation

Source: From Browder (1991. Assessment of individuals with severe disabilities. An applied behavior approach to life skills assessment (p. 126). Baltimore, MD: Paul H. Brookes. Reprinted with permission.

matches the student's performance (data pattern).

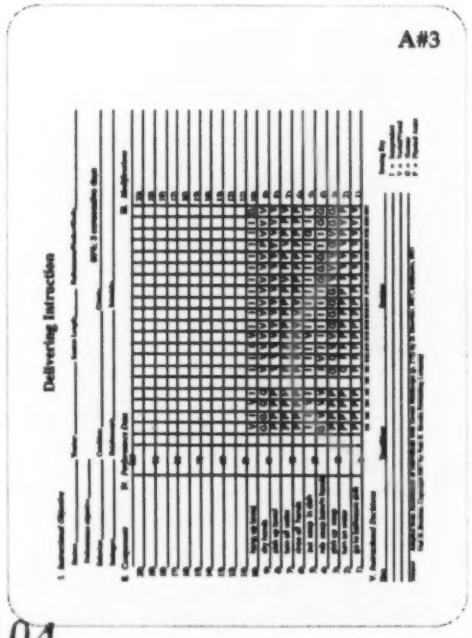
For example: For David's handwashing perfomance (data pattern), the slope for the first two weeks of instruction is accelerating and the mean is 38.8%.

- ❑ *Refering to the Lehigh Decision Rules, David's data pattern most closely matches Category 3, Adequate Progress.*
- ❑ *The decision rule is "make no changes."*
- ❑ *This is recorded on the first line of Section V of the Delivering Instruction Form (as on T#35; Page 37).*
- ❑ *The teacher will make another decision after two additional weeks of instruction or until criterion is met.*
- ❑ *For a thorough description of the Lehigh Model for instructional decision making see Assessment of Individuals with Severe Disabilities (Browder, 1991).*

7.5 Graphing Data and Making an Instructional Decison

A#3 **Delivering Instruction-Activity**
Page 39 - Trainee Workbook

A#3



- *Using the data provided on the Delivering Instruction Form A#3 each team will:*

  indicate the percentage of correct responses for each day by putting a large dot on the appropriate line for each instructional day,

  draw lines to connect each data point,

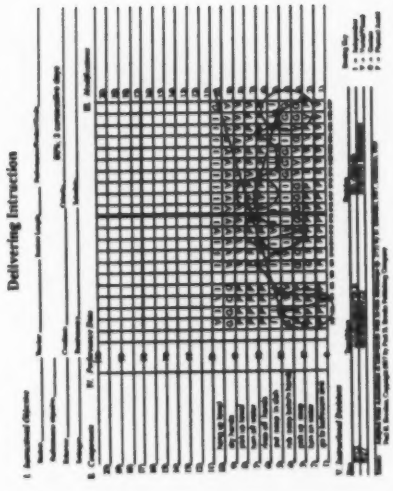
  determine the slope for the first ten days of instruction,

  determine the mean for the first ten data points,

  make an instructional decision using the LeHigh Decision Rules for the first 10 days (two weeks) of instruction, and

  repeat the process for the last ten days (two weeks) of instruction).

T#37



T#37

Delivering Instruction - Activity #3 Answers
Page 40 - Trainee Workbook

- *The correct answers to Activity #3 are listed below.*

  For example:
  First two weeks

9/2	=	*10%*
9/3	=	*20%*
9/4	=	*0%*
9/5	=	*20%*

9/6	=	*no data*
9/10	=	*30%*
9/11	=	*20%*
9/12	=	*30%*
9/13	=	*10%*
9/10	=	*30%*
Total	=	*170/9 data points*
Mean	=	*18.8%*
Slope	=	*accelerating*
Decision	=	*No change*

Second two weeks

9/16	=	*30%*
9/17	=	*30%*
9/18	=	*30%*
9/19	=	*20%*
9/20	=	*20%*
9/23	=	*20%*
9/24	=	*30%*
9/25	=	*20%*
9/26	=	*20%*
9/27	=	*10%*
Total	=	*230/10 data points*
Mean	=	*23%*
Slope	=	*decelerating*
Decision	=	*Improve motivation*

7.6 Postest

Optional - see Pre/Posttest Section

Trainer Notes